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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,660	06/25/2001	Matti Kiiski	975.344USW1	8863

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EXAMINER	
JUNTIMA, NITTAYA	

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 12/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/888,660	KIISKI ET AL.	
	Examiner	Art Unit	
	Nittaya Juntima	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,17-26 and 29-31* is/are rejected.

7)☒ Claim(s) *14-16,27 and 28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/25/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7-8, 10, 17-22, 24-25 , and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by "A cell discarding strategy to reduce cell error rate in wireless ATM network" by Sheu et al. ("Sheu").

Per claim 1, Sheu teaches a packet transmission method, comprising the steps of:

a) judging the quality of a received data packet (cell status, i.e. clean or dirty);

b) tagging said data packet by adding a dropping information (a CLP bit) in response to the result of said judging step (a dirty cell with high priority, i.e. a DH cell, is tagged as low priority with CLP set to 1); and

c) dropping said tagged data packet based on said added dropping information, when a predetermined dropping condition (network congestion) is met.

See section1 Introduction and section4 Cell Discarding Strategy.

Per claims 2 and 19, Sheu teaches that said dropping information is a drop flag (CLP bit in header field) provided in a header portion of the data packet. See section4 Cell Discarding Strategy.

Per claims 3-4 and 21, Sheu further discloses that the quality judgment (cell status determination) is performed on the basis of an error check of the data packet (HEC) which is performed based on a cyclic redundancy code (CRC-8 code in HEC field used for error detection/correction) included in the received data packet. See section1 Introduction.

Per claims 5 and 22, the quality judgment (cell status determination, i.e. clean or dirty) must be performed on the basis of a comparison of a quality of likelihood parameter (not defined, reads on error(s) in HEC of an ATM cell) with a predetermined/stored threshold (one error) in order to determine whether a cell is clean or dirty (cell is defined as dirty when error(s) found in HEC is equal or greater than the threshold of one). See section1 Introduction.

Per claims 7 and 24, Sheu further teaches that the dropping step is executed at a network element (an ATM node inherently resides within an ATM network) where congestion control is implemented. See section1 Introduction.

Per claim 8, Sheu teaches that the predetermined dropping condition is a congestion of a transmission link (network congestion inherently includes link congestion, section1 Introduction).

Per claim 10, Sheu teaches that the packet transmission method is an ATM transmission method, and the data packet is an ATM cell. See section1 Introduction.

Claims 17 and 18 are apparatus claims corresponding to method claim 1 and are therefore rejected under the same reason set forth in the rejection of claim 1.

Per claim 20, Sheu teaches that the packet transmission apparatus (a central station in Fig. 1) is arranged to perform an uplink transmission (ATM cell transmitted from a central station to

the ATM network in Fig. 1) and the inherent judging means is arranged to judge the quality of the received data packet based on an error check (HEC) of the packet. See section1 Introduction

Per claims 25 and 30, since cells with CLP = 1 will be dropped during network congestion (section1 Introduction, 3rd paragraph), therefore, the inherent dropping means must comprise a drop control means for determining a congestion of a transmission link, as said predetermining dropping condition, and for releasing a dropping operation when the determined dropping condition has been determined.

Claim 29 is a network element claim corresponding to method claim 1 and is therefore rejected under the same reason set forth in the rejection of claim 1.

Per claim 31, Sheu teaches that the network element is an ATM node (a central station in Fig. 1) and the received data packet is an ATM cell. See section1 Introduction.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over "A cell discarding strategy to reduce cell error rate in wireless ATM network" by Sheu et al. ("Sheu") in view of Fichou et al. ("Fichou") (USPN 6,072,773).

Per claim 9, Sheu fails to explicitly teach that the predetermined dropping condition is an overuse of a contract of a particular connection.

However, Fichou teaches that the dropping condition is an overuse of a contract of a particular connection (cell in excess of traffic and tolerance parameters provided at a connection setup is discarded, col. 6, ll 13-31 and col. 9, ll 18-33).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include that the predetermined dropping condition is an overuse of a contract of a particular connection into the claim. The motivation/suggestion to do so would have been to implement a policing function to control the user/network traffic to be consistent with parameters provided at connection setup time as taught by Fichou (col. 9, ll 18-33).

5. Claims 6, 11, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over "A cell discarding strategy to reduce cell error rate in wireless ATM network" by Sheu et al. ("Sheu").

Per claims 6 and 23, Sheu does not teach that the predetermined/stored threshold (one error) is periodically updated for each transmission link of the telecommunication network (a wireless ATM network in Fig. 1).

However, because CLP has two levels of high and low priorities, it would have been obvious to one skilled in the art at the time the invention was made to include that the predetermined threshold is periodically updated for each transmission link of the telecommunication network according to a severity of network congestion (e.g. high congestion has threshold of one so that dirty cell with high priority of would be changed to low priority and discarded while low congestion has threshold of three such that only cells with three errors or above would be discarded in order to alleviate low network congestion), since such a

modification would have involved a mere change in value of the threshold and is generally recognized as being within the level of ordinary skill in the art.

Per claim 11, the difference between the teaching of Sheu and claim 11 is that Sheu teaches packing a defective data frame (an error frame) into an ATM cell and the ATM cells which contain only defective frames (dirty cells) are tagged in the tagging step (DH cells with CLP=0 are retagged as DL with CLP=1), not packing multiple defective frames into the same ATM cell as recited in the claim.

However, since an ATM payload has 48 bytes (Fig. 2), more than one data frame of appropriate size may be packed into an ATM cell. Therefore, it would have been obvious to one skilled in the art to include packing multiple defective frames into the same ATM cell so that it would be treated the same way as the ATM with one defective frame.

6. Claims 12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over "A cell discarding strategy to reduce cell error rate in wireless ATM network" by Sheu et al. ("Sheu") in view of Wallentin (USPN 6,233,222 B1).

Per claims 12 and 26, Sheu teaches that the telecommunication network is a mobile communication network (a wireless ATM network in Fig. 1, see also section1 Introduction), but fails to teach the transmission method is used for transmitting ATM cells between a base station and a radio network controller.

However, Wallentin teaches transmitting ATM cells between ATM-based nodes, i.e. a base station (BS 224 in Fig. 4) and a radio network controller (RNC 222 in Fig. 3). See col. 6, ll 37-43.

Given the teach Wallentin, it would have been obvious to one skilled in the art at the time the invention was made to include that the transmission method is used for transmitting ATM cells between a base station and a radio network controller as recited in the claim. The suggestion/motivation to do so would have been to enable one to apply the transmission method to the base station and radio network controller of Wallentin which both are ATM-based nodes such as as such application of the transmission involves only routine skill in the art.

7. Claims 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over "A cell discarding strategy to reduce cell error rate in wireless ATM network" by Sheu et al. ("Sheu") in view of an art of record ("Martikainen") (WO 98/08351).

Per claim 13, Sheu fails to teach that the data packet comprises a macro diversity combining bit stream.

As shown in Fig. 1, Martikainen teaches a data packet comprising a macro diversity combining bit stream (page 3, ll 2-30).

Given the teaching of Martikainen, it would have been obvious to one skilled in the art to include that the data packet comprises a macro diversity combining bit stream as recited in the claim. The suggestion/motivation to do so would have been to enable one to select one of the packets transmitted via different transmission branches that is better according to a criterion as taught by Martikainen (page 3, ll 6-10).

Allowable Subject Matter

8. Claims 14-16 and 27-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nittaya Juntima whose telephone number is 571-272-3120. The examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nittaya Juntima
December 21, 2004
NJ

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